

**ANALYSIS, PRELIMINARY DETERMINATION AND DRAFT PERMIT
FOR
NORTHERN ENGRAVING CORPORATION
LOCATED AT
1023 SAND LAKE ROAD
HOLMEN, LA CROSSE COUNTY, WISCONSIN
ON THE OPERATION OF
PRINTED/COATED PLASTIC SHEET MANUFACTURING FACILITY
AND THE REVISION OF AIR POLLUTION CONTROL PERMITS:
91-POY-126, 88-IRS-049, MIA-10-KJC-83-42-053,
EOP-10-KJC-83-32-081, EOP-10-KJC-83-32-081A,
Alterations of EOP-10-KJC-83-32-081 issued 2/2/1990, 7/25/1988, 5/27/1987, 7/16/1986, 2/12/1985**

This review was performed by the Wisconsin Department of Natural Resources in accordance with Sections 285.60 to 285.65, Wis. Stats and Chapter NR 407, Wis. Adm. Code. This review is for a Synthetic Minor Non-Part 70 source located in an area which is designated attainment/unclassified for all criteria pollutants.

Air Pollution Control Operation Permit: 632009730-F01

Analysis, Preliminary Determination

and Draft Permit prepared by: Mary Carter Date 4/10/2002

<i>Approval Element</i>	<i>Initials and Date</i>
<i>Preliminary Determination Document (including calculations)</i>	<i>/s/ BKE 4/15/2002</i>
<i>Applicable Requirement</i>	<i>/s/ BKE 4/15/2002</i>
<i>Compliance Documentation Methods</i>	<i>/s/ MFS 4/15/2002</i>
<i>Compliance Plan and Schedule</i>	<i>na</i>
<i>Federal Enforceability of Permit Conditions (synthetic minor conditions)</i>	<i>/s/ JEA 4/15/2002</i>

Approved for Public Review and Comment: /s/ Joseph E. Ancel Date: 4/15/2002

cc: AM/7 - OP
La Crosse County Library, 103 State Street, Holmen, WI 54638

INTRODUCTION

Sources which are not exempt from the operation permit requirements under Section 407.03, Wis. Adm. Code, are required to obtain an air pollution control operation permit. Sources subject to the requirements must submit a permit application to the Department of Natural Resources by the date set forth in Sections 285.62(11)(b)1., Wis. Stats., and NR 407.04, Wis. Adm. Code. The application is then reviewed following the provisions set forth in Sections 285.62, 285.63 and 285.64, Wis. Stats., and Chapter NR 407, Wis. Adm. Code.

Subject sources are to be reviewed for their air pollution control technology and for their impact upon the air quality.

This is to insure compliance with all applicable rules and statutory requirements. The review will show why the source(s) operation should be approved, conditionally approved, or disapproved. It will encompass emission calculations and air quality analysis using U.S. EPA models, if applicable. Emissions from volatile organic compound (VOC) sources and small sources whose emissions are known to be insignificant are normally not modeled. As a precautionary note, the emission estimates may be based on U.S. EPA emission factors (AP-42) or theoretical data and can vary from actual stack test data.

This review is based on information contained within the application submitted for an air pollution control operation permit. An operation permit may be issued if the criteria set forth in sections 285.63 and 285.64, Wis. Stats., are met.

A final decision on the operation permit will not be made until the public has had an opportunity to comment on the Department's analysis, preliminary determination and draft permit. The conditions proposed in the draft permit may be revised in any final permit issued based on comments received or further evaluation by the Department.

Owner/Operator:	NORTHERN ENGRAVING CORPORATION 803 S BLACK RIVER ST SPARTA, WI 54656
Responsible Official:	BRUCE CORNING VP MANAGEMENT SYSTEMS (608)269-6911-481
Permit Contact Person:	RANDY NEDRELO SOLID AND HAZARDOUS WASTE MANAGER (608)269-6911-281

Date of Administratively Complete Application: 09/19/1995

Dates of Submittal: 9/1/1995, 4/3/2000, 8/28/2000, 10/20/2000, 10/23/2000, 1/29/2001, 2/6/2001, 2/19/2001, 4/25/2001, 5/2/2001, 6/29/2001

SOURCE DESCRIPTION

Special Note: The permittee has elected to enter into a Cooperative Agreement with the Department under the Environmental Cooperation Pilot Program authorized by s. 299.80, Wis. Stats. The aim of this pilot program is to evaluate innovative environmental regulatory methods while providing the same level of protection of public health and the environment as provided under current applicable state and federal requirements. A Cooperative Agreement provides an opportunity for greater flexibility and reduced paperwork and administrative tasks and encourages sources to reduce pollution to levels below those required by state and federal requirements. Section 299.80, Wis. Stats. encourages public participation through an interested persons group. The greater flexibility afforded by the Cooperative Agreement allows variances from requirements under chs. 280 to 295, Wis. Stats. and the Administrative Codes promulgated under those chapters provided the variance results in a measurable reduction in overall levels of pollution and contains pollution limits that are verifiable, enforceable, and at least as stringent as pollution limits under chs. 280 to 295, Wis. Stats. and the rules promulgated under those chapters. Additionally the variance must either promote the reduction in overall levels of pollution to below the levels required under chs. 280 to 295, Wis. Stats. or provide for alternative monitoring, testing, record keeping, notification or reporting requirements that reduce the administrative burden on state agencies or the participant and that provide the information needed to ensure compliance with the Cooperative Agreement and the provisions of chs. 280 to 295, Wis. Stats. and rules promulgated under those chapters for which the Cooperative Agreement does not grant a variance. Any Cooperative Agreement entered into by the Department would have a term of five years with the possibility of a renewal for up to five additional years. The Cooperative Agreement between Northern Engraving Corporation and the Department and supporting background information is contained in separate documents that are available for public review. This preliminary determination to issue Northern Engraving Corporation an operation permit for their Holmen facility highlights the proposed variances from air pollution control provisions of ch. 285, Wis. Stats, ss. NR 400 to 499, Wis. Adm. Code, and requirements contained in air pollution control permits currently held by the company.

SIGNIFICANT EMISSIONS UNITS

The Holmen facility produces printed/coated plastic sheets. The facility houses several screening and lithographic process lines and a coating line. There are also several offices, a tool and die repair shop, storage rooms, a maintenance shop, an ink-mixing and screen-making facility in the plant. There are eight screening lines, each comprised of two screening machines and a drying oven, plus a single screening machine. There are also two lithographic presses with drying ovens, and there is one coating line.

1. STACK INFORMATION

Stack Identification Number:	S03
Exhausting Unit(s):	P03
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	26.0
Inside dimensions at outlet (ft):	Circular - 1.70
Exhaust flow rate (Normal) (ACFM):	27000
Exhaust gas temperature (Normal) (°F):	150
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P03
Unit description:	2 LITHOGRAPHIC PRESSES WITH DRYING OVENS (PLO-05-H and PLO-07-H)
Control technology status:	Uncontrolled
Operation type:	LITHOGRAPHIC
Date of construction or last modification:	DECEMBER 1991
Oven curing:	Yes
Construction Permit Requirements:	These presses are covered by construction permit 91-POY-126, issued on December 6, 1991.

2. STACK INFORMATION

Stack Identification Number:	S08
Exhausting Unit(s):	P08
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	32.0
Inside dimensions at outlet (ft):	Circular - 3.10
Exhaust flow rate (Normal) (ACFM):	4000
Exhaust gas temperature (Normal) (°F):	150
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P08
Unit description:	1 ROLL COATER WITH CONVEYOR OVEN (PCO-08-H)
Control technology status:	Uncontrolled
Application technique:	ROLL COATING
Transfer efficiency (%)	100.00
Date of construction or last modification:	DECEMBER 1991
Oven curing:	Yes
Construction Permit Requirements:	The roll coater is covered by construction permit 91-POY-126, issued on December 6, 1991.

3. STACK INFORMATION

Stack Identification Number:	S09
Exhausting Unit(s):	P09
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	32.0
Inside dimensions at outlet (ft):	Circular - 4.80
Exhaust flow rate (Normal) (ACFM):	30000
Exhaust gas temperature (Normal) (°F):	150
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P09
Unit description:	8 SCREENING LINES - SEVEN CONSISTING OF 2 SCREENING MACHINES AND ONE DRYING OVEN, ONE CONSISTING OF ONE SCREENING MACHINE AND ONE DRYING OVEN, PLUS ONE SINGLE SCREENING MACHINE, PLUS TWO REPLACEMENT SCREENING MACHINES (NOTE: NO MORE THAN 16 SCREENING MACHINES SHALL BE OPERATED AT ANY ONE TIME). THE SOURCE ALSO INCLUDES 4 ELECTRIC BOX OVENS. (PSO-12-H, PSO-18-H, PSO-19-H, PSO-21-H, PSO-23-H, PSO-26-H, PSO-27-H, and PSO-H-30)
Control technology status:	Uncontrolled
Operation type:	Screen printing
Date of construction or last modification:	DECEMBER 1991
Oven curing:	Yes
Construction Permit Requirements:	Screening lines PSO-12-H, PSO-18-H, and PSO-19-H are covered by construction permit EOP-10-KJC-83-32-081 issued on August 9, 1984 and altered on May 27, 1987. Screening line PSO-21-H and PSO-23-H (formerly PSMG-04) are covered by construction permit EOP-10-KJC-83-32-081 as modified on February 12, 1985 and altered on May 27, 1987. Screening lines PSO-26-H and PSO-27-H are covered by construction permit 91-POY-126 issued on December 6, 1991. Screening line PSO-H-30 and the two replacement screening machines are covered by construction permit 01-MEC-615.

4. STACK INFORMATION

Stack Identification Number:	S14
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Exhausting Unit(s):	P14
This stack has an actual exhaust point:	No

A. Emission Unit Information

Process number:	P14
Unit description:	Miscellaneous Facility Wide Clean-up
Control technology status:	Uncontrolled
Date of construction or last modification:	DECEMBER 1991
Construction Permit Requirements: Clean-up was covered in the construction permits issued for each process.	

5. STACK INFORMATION

Stack Identification Number:	S36
Exhausting Unit(s):	P36
This stack has an actual exhaust point:	Yes
Discharge height above ground level (ft):	25.0
Inside dimensions at outlet (ft):	Circular - 1.00
Exhaust flow rate (Normal) (ACFM):	1000
Exhaust gas temperature (Normal) (°F):	70
Exhaust gas discharge direction:	Up
Stack equipped with any obstruction:	No

A. Emission Unit Information

Process number:	P36
Unit description:	TOWEL DRYER
Control technology status:	Uncontrolled
Date of construction or last modification:	DECEMBER 1991
Construction Permit Requirements: The towel dryer is covered by construction permit EOP-10-KJC-83-32-081A, issued on October 31, 1989.	

6. STACK INFORMATION

Stack Identification Number:	S50
Exhausting Unit(s):	P50
This stack has an actual exhaust point:	No

A. Emission Unit Information

Process number:	P50
Unit description:	Two digital printing lines each with an IR oven
Control technology status:	Uncontrolled
Application technique:	digital printing
Transfer efficiency (%)	100.00
Date of construction or last modification:	October 2001
Oven curing:	Yes
Construction Permit Requirements: Because the maximum theoretical volatile organic compound emissions from this process are less than 5.7 pounds per hour, no construction permit is required pursuant to s. NR 406.04(2), Wis. Adm. Code.	

INSIGNIFICANT EMISSIONS UNITS

Maintenance of Grounds, Equipment, and Bldgs
 Boiler, Turbine, and HVAC System Maintenance
 Int Comb Eng Used for Warehouse and Mat Trans
 Fire Control Equipment
 Janitorial Services
 Office Activities
 Convenience Water Heating
 Convenience Space Heating (< 5 mil BTU/hr)

Sanitary Sewer and Plumbing Venting
THREE UV-CURED LITHOGRAPHIC PRESSES
GLUING PROCESS
THERMOMETER METALIZING PROCESS
PARTS DRYER
INK MIXING STATION
ELECTRIC LAB OVEN
2 EACH 30,000 GAL PROPANE STORAGE TANKS
ADHESIVE APPLICATION PRESS
STOCK RM FOR PAINT, POWDER INK, SOLV,&PLASTIC
TOOL AND DIE REPAIR ROOM
PUNCH PRESSES
PHOTO SHEARS
THOMPSON PRESSES
QUALITY CONTROL ROOM AND LABORATORY
UV-CURING ROOM
UV-CURING LITHOGRAPHIC PRESSES
UV-CURING SCREENING PRESSES

REVISION APPLICABILITY Any operation permit issued by the Department would revise air pollution control permits 91-POY-126 issued 12/6/1991, 88-IRS-049 issued 7/27/1988, MIA-10-KJC-83-42-053 issued 8/5/1983, EOP-10-KJC-83-32-081A issued 10/31/1989, EOP-10-KJC-83-32-081 issued 8/9/1984 and altered 2/2/1990, 7/25/1988, 5/27/1987, 7/16/1986, 2/12/1985, 8/9/1984. This revision would remove emissions units which are no longer in operation and make record keeping requirements uniform for those that are still in operation. The revision would change facility wide usage limitations and record keeping requirements making them more restrictive so that the facility would be considered a synthetic minor, non-Part 70 source. Because these changes would not result in an increase in emissions or emission of an air contaminant not previously emitted, they are not considered a modification as defined in s. 285.01(26), Wis. Stats.

APPLICABLE REQUIREMENTS

For specific calculations please refer to the hand calculation sheets.

2 Lithographic Presses with Ovens P03: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the presses were installed after April 1, 1972 and particulate matter emissions are created from fuel combustion in the ovens, the presses are subject to s. NR 415.06(2)(a), Wis. Adm. Code which limits particulate matter emissions to not more than 0.15 pounds per mmBtu of heat input. Because the presses were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

Because the facility is not located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha county the requirements of s. NR 422.142, Wis. Adm. Code do not apply, pursuant to s. NR 422.142(1), Wis. Adm. Code.

The presses are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 91-POY-126, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 1.8 pounds per gallon as applied.

Each press is subject to the general limitations for sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

1 Roll Coater with Conveyor Oven P08: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the oven associated with this process has a heat input rating less than 1.0 mmBtu per hour it is not subject to the particulate matter emission limitations of s. NR 415.06, Wis. Adm. Code, pursuant to s. NR 415.06, Wis. Adm. Code. Because

the coater was constructed after April 1, 1972 it is subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

Because the facility is not located in Brown, Calumet, Dane, Dodge, Door, Fond du Lac, Jefferson, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha or Winnebago counties and because the total VOC emissions from the facility, with all emission control equipment inoperative have not exceeded 100 tons per year, P08 is not subject to the limitations for fabric and vinyl coating in s. NR 422.08, Wis. Adm. Code, pursuant to s. NR 422.03(3), Wis. Adm. Code. Additionally the facility has elected restrictions to limit the volatile organic compound emissions to less than 100 tons per year.

The roll coater is subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 91-POY-126, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 7.1 pounds per gallon as applied and the use of not more than 500 gallons of coating per month, averaged over each 12-consecutive month period.

The coater is subject to the general limitations for particulate matter, sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 415.03, NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

8 Screening Lines P09: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because the lines were installed after April 1, 1972 and particulate matter emissions are created from fuel combustion in the ovens, the lines are subject to s. NR 415.06(2)(a), Wis. Adm. Code which limits particulate matter emissions to not more than 0.15 pounds per mmBtu of heat input. Because the lines were constructed after April 1, 1972 they are subject to s. NR 431.05, Wis. Adm. Code which limits visible emissions to not more than 20 percent opacity.

Because the facility is not located in Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha county, the screening lines are exempt from the requirements of s. NR 422.145, Wis. Adm. Code, pursuant to s. NR 422.03(4m)(a), Wis. Adm. Code.

Screening lines PSO-12-H, PSO-18-H, PSO-19-H, PSO-21-H, and PSO-23-H are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit EOP-10-KJC-83-032-081 issued on August 9, 1984, modified on February 12, 1985 and altered May 27, 1987, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 6.4 pounds per gallon as applied.

Screening lines PSO-26-H and PSO-27-H are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 91-POY-126, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 6.4 pounds per gallon as applied.

Screening line PSO-H-30 and the two replacement screening machines are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. As part of the review for permit 01-MEC-615, the Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 6.4 pounds per gallon as applied.

Each line is subject to the general limitations for sulfur dioxide, carbon monoxide and nitrogen oxides contained in ss. NR 417.03, NR 426.03 and NR 428.03, Wis. Adm. Code, respectively. These general limitations would be included in Part II of any permit issued by the Department.

Facility Wide Cleanup Solvent Use P14: Maximum theoretical emissions were calculated using worst case material usage rates, solid contents, volatile organic compound contents and hazardous pollutant contents. Because cleanup is performed using a wipe cleaning operation and the facility is located outside of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington or Waukesha counties, it is exempt from the requirements of s. NR 423.03, Wis. Adm. Code, pursuant to s. NR 423.03(2)(g)1., Wis. Adm. Code. The cleanup solvent use is subject to general emission limitations for volatile organic compounds outline in ss. NR 419.03 and NR 419.04, Wis. Adm. Code which would be included in Part II of any operation permit issued by the Department.

Screen Cleaning Machine P40: Because the facility is not located in Brown, Calumet, Dane, Dodge, Door, Fond du Lac, Jefferson, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Washington or Waukesha counties, because the screen cleaning machine is a cold cleaner, and because not more than 1.5 gallons of solvent are added per day, it is exempt from the requirements of s. NR 423.03, Wis. Adm. Code, pursuant to s. NR 423.03(2)(a), Wis. Adm. Code. Therefore the screen cleaning machine is subject to the general emission limitations for volatile organic compounds outlined in ss. NR 419.03 and NR 419.04, Wis. Adm. Code which would be included in Part II of any operation permit issued by the Department. Per the permittee there are no hazardous air pollutants emitted from this process.

Towel Dryer P36: Historically the Department has not considered these types of towel dryers to meet the definition of process lines. Therefore, the dryer is not subject to the requirements of s. NR 424.03, Wis. Adm. Code. Therefore the dryer is subject to the general emission limitations for volatile organic compounds in ss. NR 419.03 and NR 419.04, Wis. Adm. Code. Section NR 419.03(1), Wis. Adm. Code states that no person may cause, allow or permit organic compound emissions into the ambient air which substantially contribute to the exceeding of an air standard or cause air pollution. Section NR 419.03(2), Wis. Adm. Code states that no person may cause, allow or permit organic compounds to be used or handled without using good operating practices and taking reasonable precautions to prevent the spillage, escape or emission of organic compounds, solvents or mixtures. Section NR 419.04, Wis. Adm. Code applies to the disposal of VOC wastes and states that (1) no person may cause, allow or permit the disposal of more than 1.5 gallons of any liquid VOC waste, or of any liquid, semisolid or solid waste materials containing more than 1.5 gallons of any VOC, in any one day from a facility in a manner that would permit their evaporation into the ambient air during the ozone season, except as provided for in s. NR 419.07; and (2) Disposal during the ozone season shall be by methods approved by the department, such as incineration, recovery for reuse, or transfer in closed containers to an acceptable disposal facility, such that the quantity of VOC which evaporates into the ambient air does not exceed 15% (by weight) or 1.5 gallons in any one day, whichever is larger. These requirements would be included in any operation permit issued by the Department.

Two Digital Printing Lines P50: Maximum theoretical emissions were calculated using worst case material usage rates, volatile organic compound contents and hazardous pollutant contents. Because the facility is not located in Kenosha, Milwaukee, Ozaukee, Racine, Washington, or Waukesha counties, P50 is not subject to the limitations for plastic parts coating in s. NR 422.083, Wis. Adm. Code, pursuant to s. NR 422.083(1), Wis. Adm. Code. The printing lines are subject to s. NR 424.03(2)(c), Wis. Adm. Code which requires the use of the latest available control techniques and operating practices demonstrating best current technology (LACT) to control volatile organic compound emissions. The Department determined 85 percent control of volatile organic compound emissions to be technologically infeasible and determined LACT to be the use of coatings or inks with a maximum VOC content of 5.4 pounds per gallon as applied.

Entire Facility:

Hazardous Air Contaminant Review - ch. NR 445, Wis. Adm. Code Requirements: Emissions from firing natural gas and propane, which are group I virgin fossil fuels, in the ovens associated with P03, P08, and P09 are exempt from ch. NR 445, Wis. Adm. Code requirements, pursuant to ss. NR 445.04(1)(c)1., (3)(c)1, (4)(c)1., and (4r)(b)1. and ss. NR 445.05(1)(c)1., (3)(c)1, (4)(c)1., and (4r)(b)1., Wis. Adm. Code. Emissions of all other hazardous pollutants regulated by ch. NR 445, Wis. Adm. Code are below the corresponding Table Values with the exception of 2-butoxyethanol, cyclohexanone and isophorone. A modeling analysis of these pollutants shows that the impact from the facility are less than their respective acceptable ambient concentration. See the Air Quality Review section below for details.

Hazardous Air Pollutant Review - Hazardous Air Pollutants Regulated by the Clean Air Act: The permittee elected limitations to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 25 tons per year. Therefore, the facility is considered a synthetic minor source of hazardous air pollutants. See the emission summary table below. Note: As part of the Environmental Cooperative Agreement the permittee has selected even more restrictive limitations. They have elected to limit the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 20 tons per year.

Variances Granted Under the Cooperative Agreement between Northern Engraving and the Department:

Part I.A. of the attached Draft Operation Permit includes the requirements the permittee would be required to meet while operating under an approved Cooperative Agreement. Part I.B. includes the permittee's applicable requirements under ch. 285, Wis. Stats. and ss. NR 400 to 499, Wis. Adm. Code as described above. Part I.B. of the draft permit would become effective if the proposed Cooperative Agreement expires or is revoked for any reason. The proposed variances under Part I.A. of the Draft Operation Permit and the proposed Cooperative Agreement are as follows:

1. Item: Waiver from the requirement to obtain a construction permit prior to commencing construction and initial operation of new process equipment, commencing modification and initial operation of existing equipment, or relocating existing process equipment between Northern Engravings Holmen, Sparta, and Galesville facilities.

Previous Requirements to be Superseded by the Cooperative Agreement [source of the requirement]:

Requirement to obtain a construction permit prior to construction, reconstruction, replacement, relocation or modification of a minor stationary source that is not otherwise exempt under s. NR 406.04, Wis. Adm. Code [s. NR 406.03, Wis. Adm. Code]

Proposed Requirement Under Cooperative Agreement:

a. New Equipment Construction and Modification: The permittee may commence construction or modification (but not operation) of new process equipment prior to obtaining a construction permit, provided the following conditions are met. The following conditions do not apply if a proposed project is exempt from the requirement to obtain a construction permit, pursuant to s. NR 406.04, Wis. Adm. Code. [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

- (1) The permittee shall submit the following information to the Department of Natural Resources, La Crosse Area Office, 3550 Mormon Coulee Road, Room 104, La Crosse, WI, 54601 **OR** other location specified by the Department:
 - (a) Two copies of a complete construction and operation permit application describing the proposed equipment;
 - (b) An application fee of \$1350 or other amount as required by s. NR 410.03(1)(d), Wis. Adm. Code; and
 - (c) Information describing how the interested persons group was notified of the proposed project. [ss. 299.80(10) and (11)(b), Wis. Stats.]
- (2) The Department shall process the permit application in accordance with ss. 285.60 through 285.69, Wis. Stats and ss. NR 406 and NR 407, Wis. Adm. Code, however, the permittee need not wait for permit issuance to commence construction. The Department shall process the permit application as both a construction permit and a significant revision to this operation permit and issue both permits simultaneously to reduce the administrative burden of issuing a construction permit that expires 18 months after issuance followed by an operation permit. The Department shall send an invoice outlining the fees required for processing the construction permit for the proposed project, including the fees for an expedited permit review authorized by s. NR 410.03(o), Wis. Adm. Code, less the \$1350 permit application fee. [ss. 299.80(2)(h), (4)(b), (10) and (11)(b), Wis. Stats.]

- (3) The permittee shall pay the total amount of the fee invoice within 30 days of receipt.¹ [s. 299.80(10), Wis. Stats.]
- (4) The permittee shall continue to comply with all the requirements of Part I.A. of this permit so long as the cooperative agreement is in affect.² [s. 299.80(2)(h) and (4)(b), Wis. Stats.]
- (5) Nothing in this section or in any Cooperative Agreement between the Department and the permittee shall be construed as a guarantee that the Department will issue an air pollution control construction and operation permit for a proposed project. The decision on whether to approve a permit application will be made according to the requirements of chapters NR 400 through NR 499, Wis. Adm. Code and s. 285.60 through 285.69, Wis. Stats. If the Department denies a permit application pursuant to ss 285.61 through 285.64, Wis. Stats. all costs and risks associated with installing and operating the proposed equipment shall be incurred solely by the permittee. In the event that the construction and operation permit application for the proposed project is denied, the permittee shall cease construction of the equipment in question immediately.

¹ Pursuant to s. 299.80(10), Wis. Stats., a participant in a cooperative agreement shall pay the same fees required under chs. 280 to 295, Wis. Stats. that it would be required to pay if it had not entered into a cooperative agreement. Therefore, while the requirement to obtain a construction permit prior to installation is waived, the permittee is still required to pay the fees that would have been assessed had a construction permit been issued under ch. NR 406, wis. Adm. Code.

² By continuing to comply with the facility wide emission limitations outlined in Part I.A. the net emissions increase from any new sources or relocation of any existing sources from other facilities, will not exceed the major stationary source levels of s. NR 405.02(22)(a), Wis. Adm. Code triggering Prevention of Significant Deterioration (PSD) Requirements. The existing facility potential emissions of all criteria pollutants is less than 250 tons per year and the facility is not included in the source categories listed in s. NR 405.07(4), Wis. Adm. Code, therefore the existing facility is a synthetic minor source for PSD purposes. Note: This facility is not located in an area designated nonattainment. Also, by continuing to comply with the facility wide emissions limitations, the potential emissions increase from any new sources or relocated existing sources will not exceed 100 tons per year after controls for any criteria pollutant. Therefore none of the changes will be considered a Type II action requiring an environmental assessment. Finally, by continuing to comply with the facility wide emission limitations, the facility would not become a major source for Part 70 purposes for either volatile organic compound or hazardous air pollutant emissions. Requirement I.A.5.a.(1)(g) of this permit requires that any changes that result in potential facility wide emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeding 100 tons per year follow permit issuance requirements of chs. NR 406 and NR 407, Wis. Adm. Code.

b. New Equipment Operation: The permittee may operate new process equipment, provided one of the following alternate scenarios are met. The following conditions do not apply if a proposed project is exempt from the requirement to obtain a construction permit, pursuant to s. NR 406.04, Wis. Adm. Code. [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

(1) *Alternate Scenario #1:* The permittee may operate new process equipment provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the Department issues a construction permit pursuant to ss. 285.60 through 285.69, Wis. Stats and ss. NR 406 and NR 407, Wis. Adm. Code. The permittee shall operate the new process equipment in compliance with the conditions contained in any construction permit issued by the Department. [s. NR 406.03, Wis. Adm. Code]

(2) *Alternate Scenario #2:* The permittee may initially operate new process equipment prior to obtaining a construction permit provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the following conditions are met: [s. 299.80(2)(h) and (4)(b), Wis. Stats.]

(a) The permittee shall submit two copies of the following information to the Department of Natural Resources, La Crosse Area Office, 3550 Mormon Coulee Road, Room 104, La Crosse, WI, 54601 **OR** other location specified by the Department, 14 calendar days prior to the date of initial operation:

(i) Information identifying all applicable requirements from the Wisconsin Statutes, Wisconsin Administrative Code, and federal Clean Air Act for the proposed equipment;

(ii) A quantification the air pollution emissions that would result from the proposed project;

(iii) A computer dispersion modeling analysis showing the National Ambient Air Quality Standards will be protected if the proposed project results in an increase in potential particulate matter, sulfur dioxide, nitrogen oxide, and/or carbon monoxide emissions.

(iv) A computer dispersion modeling analysis showing the Acceptable Ambient Concentrations will be protected if the proposed project results in an increase in emissions of any hazardous air pollutant listed in ch. NR 445, Wis. Adm. Code so that the resulting facility total emissions of the hazardous air pollutant are above the corresponding Table Value(s) **OR** results in the emission of any hazardous air pollutant listed in ch. NR 445, Wis. Adm. Code that was not previously emitted, at a rate greater than its corresponding Table Value(s); and

(v) An analysis showing the proposed project will not cause the total facility wide potential emissions of particulate matter, sulfur dioxide, nitrogen oxides or carbon monoxide to exceed 100 tons per year. Any proposed new or relocated source that will result in the facility wide potential emissions of any one of these pollutants exceeding 100 tons per year is not eligible for this waiver. If the facility wide potential emissions of any one of the pollutants would be greater than 100 tons per year as the result of a proposed project, the permittee shall comply with the construction permit requirements outlined in ch. NR 406, Wis. Adm. Code and the significant operation permit revision requirements of s. NR 407.13, Wis. Adm. Code.³ [ss. 299.80(10) and (11)(b), Wis. Stats.]

(b) The Department has 14 calendar days from the date that all the information outlined in (a) is received to request additional information or object to the proposed project. If the Department requests additional information during the original 14 calendar day period the Department shall have an additional 7 calendar days from the date of receipt of the information to request additional information or object to the proposed project. Under no scenario shall the Department have less

³ This requirement is necessary because if the potential emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeds 100 tons the facility would be considered a major source for Part 70 purposes and would be required to obtain either a Part 70 source permit or a synthetic minor, non-Part 70 source permit containing conditions that limit the potential emissions of all criteria pollutants to less than 100 tons per year.

than 14 days to review original submittal. If the Department does not respond within 14 calendar days from the date that all the information outlined in (a) is submitted, or within 7 days from the date that any additional information requested by the Department is submitted, whichever is later, the permittee may commence initial operation of the proposed equipment. The Department may provide written approval to commence initial operation of the proposed equipment prior to the end of the 14 calendar day period. If this is the case the permittee may commence initial operation upon receipt of this written approval. [ss. 299.80(2)(h) and (11)(b), Wis. Stats.]

- (3) *Alternate Scenario #3:* The permittee may initially operate new process equipment prior to obtaining a construction permit provided the permittee submits a complete construction and operation permit application as required by the conditions of I.A.5.a. and the following conditions are met: [s. 299.80(2)(h) and (4)(b), Wis. Stats.]
- (a) The Department provides written approval to commence initial operation of the proposed equipment. This written approval shall only be provided after the Department completes an air quality dispersion modeling analysis to ensure that the national ambient air quality standards and acceptable ambient concentrations will be protected while the proposed equipment is operating; [s. NR 406.09, Wis. Adm. Code]
- (b) The permittee shall comply with any specific conditions included in the Department's written approval to commence initial operation;
- (4) The permittee shall continue to comply with all the requirements of Part I.A. of this permit so long as the cooperative agreement is in affect.⁴ [s. 299.80(2)(h) and (4)(b), Wis. Stats.]
- (5) Nothing in this section or in any Cooperative Agreement between the Department and the permittee shall be construed as a guarantee that the Department will issue an air pollution control construction and operation permit for a proposed project. The decision on whether to approve a permit application will be made according to the requirements of chapters NR 400 through NR 499, Wis. Adm. Code and s. 285.60 through 285.69, Wis. Stats. If the Department denies a permit application pursuant to ss 285.61 through 285.64, Wis. Stats. all costs and risks associated with installing and operating the proposed equipment shall be incurred solely by the permittee. In the event that the construction and operation permit application for the proposed project is denied, the permittee shall cease construction and/or operation of the equipment in question immediately.

2. Item: Waiver from individual process line LACT (latest available control technique) requirements for controlling volatile organic compound emissions.

Previous Requirements to be Superseded by the Cooperative Agreement [source of the requirement]:
Requirement to control volatile organic compound emissions from process lines on which construction or modification commenced on or after August 1, 1979, and which are not subject to emission limitations

⁴ By continuing to comply with the facility wide emission limitations outlined in Part I.A. the net emissions increase from any new sources or relocation of any existing sources from other facilities, will not exceed the major stationary source levels of s. NR 405.02(22)(a), Wis. Adm. Code triggering Prevention of Significant Deterioration (PSD) Requirements. The existing facility potential emissions of all criteria pollutants is less than 250 tons per year and the facility is not included in the source categories listed in s. NR 405.07(4), Wis. Adm. Code, therefore the existing facility is a synthetic minor source for PSD purposes. Note: This facility is not located in an area designated nonattainment. Also, by continuing to comply with the facility wide emissions limitations, the potential emissions increase from any new sources or relocated existing sources will not exceed 100 tons per year after controls for any criteria pollutant. Therefore none of the changes will be considered a Type II action requiring an environmental assessment. Finally, by continuing to comply with the facility wide emission limitations, the facility would not become a major source for Part 70 purposes for either volatile organic compound or hazardous air pollutant emissions. Requirement I.A.5.a.(1)(g) of this permit requires that any changes that result in potential facility wide emissions of particulate matter, sulfur dioxide, nitrogen oxide or carbon monoxide emissions exceeding 100 tons per year follow permit issuance requirements of chs. NR 406 and NR 407, Wis. Adm. Code.

listed elsewhere in chs. NR 419 to 423, Wis. Adm. Code by at least 85 percent OR where 85 percent control has been demonstrated to be technologically infeasible, to control volatile organic compounds using the latest available control techniques and operating practices demonstration best current technology, as approved by the Department. [s. NR 424.03(2)(b) and (c), Wis. Adm. Code]

Holmen - LACT Requirements from Existing Permits

Process P03:	Permit 91-POY-126	Condition I.D.1. Specific Emission Limitation for VOCs
Process P08:	Permit 91-POY-126	Condition I.E.1. Specific Emission Limitation for VOCs
Process P09:	Permit 91-POY-126	Condition I.A.1. Specific Emission Limitation for VOCs
	Alteration of EOP-10-KJC-83-32-081 dated 5/27/1987 for PSMG-04, PSO-21-H, PSO-11-H, PSO-12-H, PSO-18-H, and PSO-19-H	
	Alteration of EOP-10-KJC-83-32-081 dated 2/12/1985	
		Condition I.A.44. Emission Limitation for Organic Compounds
		Condition I.A.50. Emission Limitation for Organic Compounds
	EOP-10-KJC-83-32-081	Condition I.A.38. Emission Limitation for Organic Compounds
		Condition I.A.39. Emission Limitation for Organic Compounds
		Condition I.A.42. Emission Limitation for Organic Compounds

Proposed Requirement Under Cooperative Agreement: Total volatile organic compound emissions from the Holmen facility may not exceed 85 tons per year averaged over each 12 consecutive month period.

3. Item: Monthly rather than daily record keeping requirements.

Previous Requirements to be Superseded by the Cooperative Agreement [source of requirement]: The following permit conditions require Northern Engraving to keep daily records:

Holmen - Daily Record Keeping Requirements from Existing Permits:

Permit 91-POY-126, Condition I.11.5.

Alteration of permit EOP-10-KJC-83-32-081 dated 2/20/90, Condition I.B.13.

Proposed Requirement Under Cooperative Agreement: To demonstrate compliance status with the facility wide emission limitations for volatile organic compound and hazardous air pollutants, Northern Engraving would be required to keep monthly records of VOC emissions as follows:

a. Compliance Demonstration Methods for VOCs:

- (1) Each month the permittee shall calculate the total volatile organic compound emissions from the facility as follows:

$$E = (1 \text{ ton}/2000 \text{ lbs}) \times \{[(U_1 \times W_1 \times C_1) + (U_2 \times W_2 \times C_2) + \dots + (U_n \times W_n \times C_n)] - [(S_1 \times P_1) + (S_2 \times P_2) + \dots + (S_m \times P_m)]\}$$

where:

E is the monthly VOC emissions (tons/month);

U is the monthly usage of each ink, coating, solvent, or other VOC containing material used during the month (gallons/month);

W is the density of each ink, coating, solvent, or other VOC containing material used during the month (pounds/gallon)

C is the VOC content of each ink, coating, solvent, or other VOC containing material used during the month expressed as a weight fraction (i.e. if a material is 25% VOC by weight C would be 0.25);

n identifies each ink, coating, solvent or other VOC containing material used during the month;

S is the amount of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site each month (lbs/month);

P is the VOC content of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site each month expressed as a weight fraction (i.e. if a spent material is 25% VOC by weight P would be 0.25);

m identifies each spent ink, coating, solvent or other VOC containing material recovered and shipped off site during the month.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (2) To demonstrate compliance with the facility wide volatile organic compound emission limitation of 85 tons per year, the permittee shall calculate the total volatile organic compound emissions from the facility, averaged over each 12 consecutive month period by summing the monthly volatile organic compound emissions as calculated in a.(1) above for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
- (3) The permittee shall use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content (C_n) and the density (W_n) of the of the inks, coatings, solvents or other VOC containing materials used. In case of an inconsistency between the Method 24 results and the formulation data, the Method 24 results will govern. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (4) The permittee shall analyze the spent ink, coating, solvent and other VOC containing material recovered and shipped off site to determine the VOC content (P) no less than: (a) each time there is a change to materials or process operations that may affect the waste stream; or (b) annually, which ever is most frequent. [s. NR 439.04(1)(d), Wis. Adm. Code]

b. Record Keeping and Monitoring Requirements for VOCs:

- (1) The permittee shall keep records of the following for each ink, coating, solvent, or other VOC containing material used at the facility:
 - (a) A unique name or identification number; and
 - (b) The VOC content, expressed as a weight fraction (C_n).[s. NR 439.04(1)(d), Wis. Adm. Code]
- (2) The permittee shall keep monthly records of:
 - (a) The amount of each ink, coating, solvent, or other VOC containing material used in gallons per month (U_n);
 - (b) The density of each ink, coating, solvent, or other VOC containing material used in pounds per gallon (W_n);
 - (c) The amount of spent ink, coating, solvent, or other VOC containing material recovered and shipped off site in pounds per month (S_m);
 - (d) The VOC content of each spent ink, coating, solvent or other VOC containing material recovered and shipped off site, expressed as a weight fraction (P_m).
 - (e) The total monthly VOC emissions from the facility in tons per month (E), as calculated in a.(1); and
 - (f) The total VOC emissions from the facility in tons per year as calculated in a.(2).[s. NR 439.04(1)(d), Wis. Adm. Code]

c. Compliance Demonstration Methods for HAPs:

- (1) Each month the permittee shall calculate the total emissions of each hazardous air pollutant from the facility regulated by the Clean Air Act as follows:⁵

$$E_x = (1 \text{ ton}/2000 \text{ lbs}) \times \{[(U_1 \times W_1 \times H_1) + (U_2 \times W_2 \times H_2) + \dots + (U_n \times W_n \times H_n)] - [(S_1 \times I_1) + (S_2 \times I_2) + \dots + (S_m \times I_m)]\}$$

⁵ This calculation shall be performed for each hazardous air pollutant regulated by the Clean Air Act that is emitted from the facility.

where:

E_x is the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act (tons/month);

x identifies each HAP emitted from the facility

U is the monthly usage of each ink, coating, solvent, or other HAP containing material used during the month (gallons/month);

W is the density of each ink, coating, solvent, or other HAP containing material used during the month (pounds/gallon)

H is the HAP content of each ink, coating, solvent, or other HAP containing material used during the month expressed as a weight fraction (i.e. if a material is 25% HAP by weight H would be 0.25);

n identifies each ink, coating, solvent or other HAP containing material used during the month;

S is the amount of each spent ink, coating, solvent or other HAP containing material recovered and shipped off site each month (lbs/month);

I is the HAP content of each spent ink, coating, solvent or other HAP containing material recovered and shipped off site each month expressed as a weight fraction (i.e. if a spent material is 25% HAP by weight I would be 0.25);

m identifies each spent ink, coating, solvent or other HAP containing material recovered and shipped off site during the month.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (2) To demonstrate compliance with the facility wide limitation on each hazardous air pollutant emissions of 8 tons per year, the permittee shall calculate the emissions of each hazardous air pollutant regulated by the Clean Air Act, averaged over each 12 consecutive month period by summing the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act as calculated in c.(1) for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
- (3) Each month the permittee shall calculate the total emissions of hazardous air pollutants regulated by the Clean Air Act as follows:

$$E_{hap} = \sum E_x$$

where:

E_{hap} is the monthly total emissions of all hazardous air pollutants regulated by the Clean Air Act that are emitted by the facility (tons/month);

E_x is the monthly emissions of each hazardous air pollutant regulated by the Clean Air Act (tons/month) as calculated in c.(1);

x identifies each HAP emitted from the facility.

[s. NR 407.09(4)(a)1., Wis. Adm. Code]

- (4) To demonstrate compliance with the facility wide limitation on the total hazardous air pollutants emitted from the facility of 20 tons per year, the permittee shall calculate the total emissions of all hazardous air pollutants regulated by the Clean Air Act, averaged over each 12 consecutive month period by summing the monthly emissions of all hazardous air pollutants regulated by the Clean Air Act as calculated in c.(3) for each consecutive 12 month period. This calculation shall be performed within fifteen calendar days of the end of each month for the previous 12 consecutive month period. [s. NR 407.09(4)(a)1., Wis. Adm. Code]
- (5) The permittee shall use coating manufacturer's formulation data to determine the HAP content (H_n) of the of the inks, coatings, solvents or other HAP containing materials used. [s. NR 439.04(1)(d), Wis. Adm. Code]
- (6) The permittee shall analyze the spent ink, coating, solvent and other HAP containing material recovered and shipped off site to determine the HAP content (H) no less than: (a) each time there

is a change to materials or process operations that may affect the waste stream; or (b) annually, which ever is most frequent. [s. NR 439.04(1)(d), Wis. Adm. Code]

d. Record Keeping and Monitoring Requirements for HAPs:

- (1) The permittee shall keep records of the following for each ink, coating, solvent, or other HAP containing material used at the facility:
 - (a) A unique name or identification number; and
 - (b) The weight fraction of each HAP contained in the material (H_n).[s. NR 439.04(1)(d), Wis. Adm. Code]
- (2) The permittee shall keep monthly records of:
 - (a) The amount of each ink, coating, solvent, or other HAP containing material used in gallons per month (U_n);
 - (b) The density of each ink, coating, solvent, or other HAP containing material used in pounds per gallon (W_n);
 - (c) The amount of spent ink, coating, solvent, or other HAP containing material recovered and shipped off site in pounds per month (S_m);
 - (d) The weight fraction of each HAP contained in each spent ink, coating, solvent or other HAP containing material recovered and shipped off site, expressed as a weight fraction (I_m);
 - (e) The facility total monthly emissions of each HAP in tons per month (E_x), as calculated in c.(1);
 - (f) The total monthly HAP emissions from the facility in tons per month (E_{hap}), as calculated in c.(3);
 - (g) The facility total emissions of each HAP in tons per year as calculated in c.(2).
 - (h) The total HAP emissions from the facility in tons per year as calculated in c.(4).[s. NR 439.04(1)(d), Wis. Adm. Code]

The proposed agreement would allow a variance from the requirement to obtain a construction permit prior to constructing, modifying, relocating and initially operating process equipment provided the permittee meets the conditions listed under item 1. above. The permittee would be required to submit a complete construction and operation permit application, an explanation of how they have informed their interested persons group, and the application fee prior to commencing construction. The permittee would assume the risk of constructing without a permit. In order to operate any new equipment the permittee would be required to comply with one of three alternate scenarios. Under the first scenario the permittee would not be allowed to operate the new equipment until the Department issues a construction permit. Under the second scenario the permittee would be required to submit a detailed review of the proposed project including a detailed modeling analysis, complete permit application and determination that the proposed equipment will meet applicable limitations. The Department would then have 14 calendar days from the date of the permittee's submittal to object to the proposal or request additional information. Under the third scenario the permittee would be allowed to initially operate only after receiving a written approval from the Department. The Department would only issue this approval after the air quality dispersion modeling analysis is completed and conditions are developed to ensure the national ambient air quality standards and the acceptable ambient concentrations are protected. Prior approval to construct or initially operate would not constitute final Department approval of any permit application. The Department will review the application and make a determination to approve or disapprove the permit application following the procedures of ch. 285, Wis. Stats and chs. NR 400 through 499, Wis. Adm. Code. If the Department does not approve the application, the permittee would be required to discontinue construction and initial operation at their own expense.

This variance from the requirement to obtain a construction permit prior to commencing construction and initial operation gives the permittee greater flexibility than otherwise allowed under chs. 280 to 295, Wis. Stats. and the rules promulgated under those chapters, pursuant to s. 299.80(2)(h), Wis. Stats. Due to the nature of the permittee's business they need to be responsive to their customer's demands in a shorter time frame than allowed by the current construction permit process. To be able to operate without a permit the permittee would either wait for the Department to issue a construction permit, complete an air quality dispersion modeling analysis and provide written approval, or take on additional responsibilities. The additional responsibility would include systematically assessing

the pollution that the proposed project would cause and ensuring that they would comply with all applicable air pollution requirements. Because the permittee would be required to comply with a facility wide emissions cap even with the addition of any new equipment there would be no resulting increase in their potential facility emissions. The added flexibility provided by this variance would reduce the time and money spent not only by the permittee but also by the Department on administrative tasks that do not result in benefits to the environment, pursuant to s. 299.80(2)(i), Wis. Stats. Because of the fluctuating nature of their business the permittee currently submits a number of construction permit application each year in attempt to predict their customers' needs. The Department processes these applications and issues construction permits. The majority of the time, the permittee finds that the equipment they've permitted is not the equipment necessary to meet customer demands and they do not install it. The flexibility to construct and initially operate equipment in a shorter time frame would eliminate processing unnecessary permits saving both the permittee and the Department time and money and allowing both parties to focus on processing the permits that are required.

The proposed agreement would allow a variance from the LACT requirements for processes P03, P08, and P09 as described in item 2 above. These LACT requirements were previously determined by the Department as part of the review of the air pollution control permits listed above and are:

Process P03: the use of coatings or inks with a maximum VOC content of 1.8 pounds per gallon as applied.

Process P08: the use of coatings or inks with a maximum VOC content of 7.1 pounds per gallon as applied and the use of not more than 500 gallons of coating per month, averaged over each 12-consecutive month period.

Process P09: the use of coatings or inks with a maximum VOC content of 6.5 pounds per gallon as applied.

Process P50: the use of coatings or inks with a maximum VOC content of 5.4 pounds per gallon as applied.

As shown in the Facility Emissions section, the potential volatile organic compound emissions that could result if LACT were the only restriction applied to the facility is 1123.15 tons per year. The permittee has elected to take additional restrictions as part of their operation permit so the facility would be considered a synthetic minor, non-Part 70 source. Under this restriction the potential volatile organic compound emissions would be 99 tons per year. Under the Cooperative Agreement the permittee has proposed to further limit their potential volatile organic emissions to not more than 85 tons per year. This reduction in the overall level of volatile organic compound emissions satisfies the requirements that any variance granted under a Cooperative Agreement promote the reduction in overall levels of pollution to below the levels required under chs. 280 to 295, Wis. Stats., pursuant to s. 299.80(4)(b), Wis. Stats. Setting a facility wide volatile organic compound emission limitation rather than a process specific limitation encourages the permittee to implement source specific efficient and cost-effective pollution reduction strategies while providing the same level of protection of public health and the environment, pursuant to ss. 299.80(2)(a) and (c), Wis. Stats.

While the applicable LACT requirements are in terms of the pounds of volatile organic compounds in a gallon of material, the proposed variance does not limit the VOC content of the materials used at the plant, but limits the overall VOC emissions as shown above. Air pollution limitations are intended to protect National Ambient Air Quality Standards (NAAQSs) established by the U.S. Environmental Protection Agency. Currently there are no NAAQSs for VOC. Volatile organic compound emissions are regulated because they react with nitrogen oxides in the atmosphere on hot sunny days to form ozone, more commonly known as smog. If present at high enough concentrations, surface level ozone can potentially impact public health and the environment. The U.S. EPA has established NAAQSs for ozone. Because of the way that ozone is formed, it is generally a regional problem where many sources of VOC and nitrogen oxide emissions contribute to its formation. Some large urban areas including southeastern Wisconsin are classified as ozone nonattainment areas. None of the counties in the western part of Wisconsin including La Crosse, Trempealeau, and Monroe Counties are classified as nonattainment areas for ozone.

To demonstrate that their volatile organic compound emissions remain below 85 tons per year, the permittee has proposed an alternate record keeping method to reduce their administrative burden. See item 3 above. The permittee has proposed to keep monthly records of the VOC containing materials used at their facility to determine their overall facility emissions. These types of records should demonstrate compliance status with the facility wide

emission limitation of 85 tons of VOC per year and reduce the administrative burden on the permittee and the Department, pursuant to s. 299.80(4)(b), Wis. Stats.

In addition to a more restrictive limitation on VOCs, the permittee has elected a more restrictive limitation on hazardous air pollutant emissions. To be a minor source of hazardous air pollutants, a facility's potential emissions of each hazardous air pollutant regulated by the Clean Air Act must be less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined must be less than 25 tons per year. The permittee has elected to take further restrictions and proposes to limit the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 20 tons per year promoting the reduction in the overall levels of pollution to below the levels required under chs. 280 to 295, Wis. Stats., pursuant to s. 299.80(4)(b), Wis. Stats.

Please refer to the Cooperative Agreement and its supporting documentation for more information regarding the variances granted under that pilot program.

AIR QUALITY REVIEW

A modeling analysis was completed by John Roth on February 20, 2001. This analysis assessed the impact of the particulate matter, sulfur dioxide, nitrogen oxide, carbon monoxide, 2-butoxyethanol, cyclohexanone, and isophorone emissions from Northern Engraving Company in Holmen, La Crosse County. The results listed below demonstrate that all applicable ambient air quality standards will be attained and maintained assuming the emission rates and stack parameters listed in the source table of Roth's February 20, 2001 memo.

NAAQS Analysis Results (All Concentrations in $\mu\text{g}/\text{m}^3$)					
Pollutant	Facility Impact	Background	Total Concentration	NAAQS or AAC	% NAAQS or AAC
TSP - 24 hr	66.2	41.8	108.0	150.0	72.0
PM ₁₀ - 24 hr	66.2	29.8	96.0	150.0	64.0
PM ₁₀ - Annual	10.7	9.8	20.5	50.0	41.0
SO ₂ - 3 hr	0.65	137.1	137.8	1300.0	10.6
SO ₂ - 24 hr	0.28	35.2	35.5	365.0	9.7
SO ₂ - Annual	0.05	7.9	8.0	80.0	10.0
CO - 1 hr	111.0	3188.0	3299.0	40,000	8.2
CO - 8 hr	57.0	890.4	947.4	10,000	9.5
NO _x - Annual	14.7	4.7	19.4	100.0	19.4
2-butoxyethanol	1571.7	--	1571.7	2880.0	54.6
cyclohexanone	1983.9	--	1983.9	2400.0	82.7
isophorone	375.7	--	375.7	2500.0	15.0

FACILITY EMISSIONS

Actual emissions are the total emissions generated by the emission sources identified below over the specified time period taking into account any reductions made by a control device or technique. Maximum theoretical emissions are the quantity of air contaminants that theoretically could be emitted by the emissions sources identified below,

without considering emission control devices, based on the design capacity of the source. Potential to emit is the maximum capacity of the emission sources identified below to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air contaminant shall be treated as part of its design if the limitation is Federally enforceable.

A. STACK EMISSIONS

1. **P03, Stack S03 - 2 Lithographic Presses with Natural Gas/Propane Drying Ovens - Installed 1991 (PLO-05-H and PLO-07-H)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.06	0.25	0.06	0.25	1.13	4.93
Sulfur Dioxide	0.005	0.022	0.005	0.022	0.005	0.022
Nitrogen oxides	1.55	6.78	1.55	6.78	1.55	6.78
Carbon Monoxide	0.63	2.74	0.63	2.74	0.63	2.74
VOCs	1.84	8.06	0.94	#	1.84	8.06

2. **P08, Stack S08 - 1 Roll Coater with Natural Gas/Propane Conveyor Oven - Installed 1991 (PCO-08-H)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.006	0.026	0.006	0.026	0.006	0.026
Sulfur Dioxide	0.0005	0.002	0.0005	0.002	0.0005	0.002
Nitrogen oxides	0.17	0.72	0.17	0.72	0.17	0.72
Carbon Monoxide	0.07	0.29	0.07	0.29	0.07	0.29
VOCs	33.37	146.18	32.43	#	33.37	146.18

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P08

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
cyclohexanone *	18.6	81.47	18.6	##
diisobutyl ketone *	17.1	74.90	17.1	##
ethyl benzene	1.2	5.26	1.2	##
glycol ethers	11.8	51.68	11.8	##
isophorone	3.3	14.45	3.3	##
MEK	16.8	73.58	16.8	##
MIBK	3.9	17.08	3.9	##

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
naphthalene	0.5	2.19	0.5	##
toluene	3.3	14.45	3.3	##
xylene	6.2	27.16	6.2	##

3. **P09, Stack S09 - 8 Screening Lines, seven consisting of 2 screening machines and one natural gas/propane drying oven, one consisting of one screening machine and one natural gas/propane drying oven, plus one single screening machine, plus two replacement screening machines (note: no more than 16 screening machines shall be operated at any one time). This source also includes 4 electric box ovens - Installed 1991 and 2001 (PSO-12-H; PSO-18-H; PSO-19-H; PSO-21-H; PSO-23-H; PSO-26-H; PSO-27-H; and PSO-H-30)**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
Particulate matter emissions	0.075	0.33	0.075	0.33	1.49	6.50
Sulfur Dioxide	0.006	0.026	0.006	0.026	0.006	0.026
Nitrogen oxides	2.04	8.96	2.04	8.96	2.04	8.96
Carbon Monoxide	0.83	3.64	0.83	3.64	0.83	3.64
VOCs	179.97	788.28	179.97	#	179.97	788.28

HAZARDOUS AIR POLLUTANT EMISSIONS FROM P09

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
n-butanol *	1.2	5.26	1.2	##
2-butoxyethanol *	51.7	226.45	51.7	##
cyclohexanone *	53.1	232.58	53.1	##
diacetone alcohol *	39.9	174.76	39.9	##
ethyl benzene	8.8	38.54	8.8	##
isophorone	1.8	7.88	1.8	##
stoddard solvent *	5.2	22.78	5.2	##
xylene	1.9	8.32	1.9	##

4. **P14, Stack S14 - Miscellaneous Facility Wide Cleanup**

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY

VOCs	13.9	60.88	13.9	#	13.9	60.88
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HAZARDOUS AIR POLLUTANT EMISSIONS FROM P14

Pollutant	Maximum Theoretical		Potential to Emit	
	lbs/hr	TPY	lbs/hr	TPY
2-butoxyethanol *	0.1	0.44	0.1	##
cyclohexanone *	2.0	8.76	2.0	##
glycol ethers	0.1	0.44	0.1	##
MEK	1.1	4.82	1.1	##
naphthalene	0.3	1.31	0.3	##
stoddard solvent *	0.1	0.44	0.1	##

5. P36, Stack S36 - Towel Dryer - Installed 1991

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	25.0	109.5	25.0	#	25.0	109.5

6. P40, Stack S40 - Screen Cleaning Machine - Installed 1998

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	0.31	1.37	0.31	#	0.31	1.37

7. P50, Stack S50 - Two Digital Printing Lines each with an IR curing oven - Installed 2001

Pollutant	Maximum Theoretical		Potential to Emit		Maximum Allowables	
	lbs/hr	TPY	lbs/hr	TPY	lbs/hr	TPY
VOCs	2.01	8.78	2.01	#	2.01	8.78

B. FACILITY EMISSIONS

Pollutant	Maximum Theoretical Emissions	Potential to Emit Under Title V Operation Permit	Maximum Allowable Emissions	Potential to Emit Under the Cooperative Agreement
	TPY	TPY	TPY	TPY
Particulate Matter Emissions	0.61	0.61	11.46	0.61
Sulfur Dioxide	0.05	0.05	0.05	0.05
Nitrogen Oxides	16.46	16.46	16.46	16.46

Carbon Monoxide	6.67	6.67	6.67	6.67
VOCs	1123.15	99	1123.15	85.44
Total CAA HAPs	231.70	24.96	231.70	20

Hazardous Air Pollutant	Potential to Emit		NR 445, Wis. Adm. Code Threshold Value (stacks \geq 25 ft)		PTE greater than Table Value?
	(lbs/hr)	(tpy)		Units	
n-butanol *	1.2	##	29.47200	lbs/hr	no
2-butoxyethanol *	51.8	##	41.95200	lbs/hr	yes
cyclohexanone *	73.7	##	34.96800	lbs/hr	yes
diacetone alcohol *	39.9	##	83.928000	lbs/hr	no
diisobutyl ketone *	17.1	##	30.429000	lbs/hr	no
ethyl benzene	10.0	##	152.136000	lbs/hr	no
		##	456.320000	tpy	no
glycol ethers	11.9	##	na		
isophorone	5.1	##	4.89600	lbs/hr	yes
MEK	17.9	##	na		
MIBK	3.9	##	71.6880	lbs/hr	no
naphthalene	0.8	##	17.472000	lbs/hr	no
stoddard solvent *	5.3	##	183.6240	lbs/hr	no
toluene	3.3	##	131.1600	lbs/hr	no
		##	182.5300	tpy	no
xylene	8.1	##	152.13600	lbs/hr	no
Total HAPS regulated by the CAA		##			

HAP = hazardous air pollutant

CAA = Clean Air Act

na = not applicable

* denotes state-only HAPs

The permittee has elected restrictions to limit the potential VOC emissions from the facility to not more than 85 tons per year while operating under the Cooperative Agreement and to less than 100 tons per year otherwise. See total facility emissions summarized above. These more restrictive limitations would be included in any Operation Permit issued by the Department. Note: VOC emissions from use of materials containing VOCs will be limited to 85 tons per year. The additional 0.44 tons of VOCs per year are from combustion of natural gas and propane at the facility

The permittee has elected restrictions to limit the potential emissions of all HAPs regulated by the Clean Air Act to not more than 20 tons per year while operating under the Cooperative Agreement and to less than 25 tons per year otherwise. The permittee has elected restrictions to limit the potential emissions of each HAP regulated by the Clean Air Act to not more than 8 tons per year while operating under the Cooperative Agreement and to less than 10 tons per year otherwise. These more restrictive limitations would be included in any Operation Permit issued by the Department.

FACILITY STATUS UNDER PART 70

The facility is located in an area designated as attainment/unclassified for all criteria pollutants. The facility would be considered a synthetic minor, non-part 70 source because the permittee elected limitations to restrict the potential emissions of volatile organic compounds to less than the major source threshold of 100 tons per year. The potential emissions of each other criteria pollutant are less than the major source threshold level of 100 tons per year. Additionally, the permittee elected limitations to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to less than 10 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to less than 25 tons per year.

Note: The permittee has elected to restrict the potential emissions of volatile organic compounds to not more than 85 tons per year while operating under a Cooperative Agreement with the Department. Additionally, the permittee elected to restrict the potential emissions of each hazardous air pollutant regulated by the Clean Air Act to not more than 8 tons per year and the potential emissions of all hazardous air pollutants regulated by the Clean Air Act combined to not more than 20 tons per year, while operating under a Cooperative Agreement with the Department.

COMPLIANCE DEMONSTRATION METHODS

For details on specific compliance demonstration methods, please refer to the Draft Operation Permit.

2 Lithographic Presses with Ovens P03: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the maximum theoretical emissions while firing these fuels are less than the allowable particulate matter emission limit. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them. Please see the Draft Permit for specific compliance demonstration methods. To demonstrate compliance with the LACT VOC content limitation the permittee would be required to keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used.

1 Roll Coater with Conveyor Oven P08: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the maximum theoretical emissions while firing these fuels are less than the allowable particulate matter emission limit. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them. Please see the Draft Permit for specific compliance demonstration methods. To demonstrate compliance with the LACT VOC content limitation the permittee would be required to keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used. To demonstrate compliance with the LACT coating usage limitation the permittee would be required to keep records of the total gallons used on P08 and calculate the monthly average coating use over each 12 consecutive month period.

8 Screening Lines P09: To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the maximum theoretical emissions while firing these fuels are less than the allowable particulate matter emission limit. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them. Please see the Draft Permit for specific compliance demonstration methods. To demonstrate compliance with the LACT VOC content limitation the permittee would be required to

keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used.

Towel Dryer P36: To demonstrate compliance with the VOC disposal requirements of s. NR 419.04, Wis. Adm. Code, the permittee shall keep daily records of the total amount of solvents and other VOC containing materials used on clean up towels throughout the facility, the amount of solvent and other VOC containing material recovered by pressing the soiled towels prior to drying, and the calculated amount of VOCs that are emitted from the towel dryer.

Two Digital Printing Lines P50: To demonstrate compliance with the LACT VOC content limitation the permittee would be required to keep records of each ink and other VOC containing material used and the VOC content as applied. The permittee would be required to use U.S. EPA Method 24, or coating manufacturer's formulation data to determine the VOC content of the materials used.

Facility Wide Synthetic Minor Conditions: To demonstrate compliance with the monthly limitation on VOC emissions from the entire facility the permittee would be required to calculate and record the daily VOC emissions from the facility and calculate and record the monthly VOC emissions from the facility averaged over each 12 consecutive month period. To demonstrate compliance with the monthly limitation on each Clean Air Act HAP emitted from the entire facility the permittee would be required to calculate and record the daily facility wide emissions of each Clean Air Act HAP and calculate and record the monthly facility wide emissions of each Clean Air Act HAP averaged over each 12 consecutive month period. To demonstrate compliance with the monthly limitation on total Clean Air Act HAPs emitted from the entire facility the permittee would be required to calculate and record the total daily facility wide emissions of Clean Air Act HAPs and calculate and record the total monthly facility wide emissions of Clean Air Act HAPs averaged over each 12 consecutive month period.

Facility Requirements: The facility would be required to submit annual compliance monitoring and annual compliance certification reports to the Department. These reports would summarize the compliance monitoring data required by any permit issued by the Department and certify the compliance status of the facility throughout the calendar year. The compliance monitoring and compliance certification reports would be required within 30 days of the end of the reporting period.

Compliance Demonstration Under Cooperative Agreement: For specific compliance demonstration requirements, please refer to the Draft Operation Permit. To demonstrate compliance with the facility wide limitation on VOC emissions, the permittee would be required to calculate and record the total VOC emissions from the facility each month and calculate and record the monthly VOC emissions averaged over each 12 consecutive month period. The permittee would be required to use U.S. EPA Method 24, or manufacturer's formulation data to determine the VOC content and density of the materials used. The permittee would be required to analyze the spent ink, coating, solvent and other VOC containing material recovered and shipped off site to determine the VOC content no less than each time there is a change to materials or process operations that may affect the waste stream or annually, whichever is most frequent. To demonstrate compliance with the facility wide limitation on emissions of each Clean Air Act HAP, the permittee would be required to calculate and record the facility total emissions of each Clean Air Act HAP each month and calculate and record the monthly emissions of each Clean Air Act HAP averaged over each 12 consecutive month period. To demonstrate compliance with the facility wide limitation on total emissions of all Clean Air Act HAPs, the permittee would be required to calculate and record the facility total emissions of all Clean Air Act HAPs each month and calculate and record the monthly emissions of all Clean Air Act HAPs averaged over each 12 consecutive month period. The permittee would be required to use manufacturer's formulation data to determine the HAP content and density of the materials used. The permittee would be required to analyze the spent ink, coating, solvent and other HAP containing material recovered and shipped off site to determine the HAP content no less than each time there is a change to materials or process operations that may affect the waste stream or annually, whichever is most frequent. To demonstrate compliance with particulate matter and visible emission limitations the permittee would be required to retain plans and specifications of each non-electric curing oven that indicate they are designed to only burn natural gas and propane. This is an adequate compliance demonstration method because the maximum theoretical emissions while firing these fuels are less than the allowable particulate matter emission limits. Additionally, because natural gas and propane are clean burning fuels it is not expected that the visible emission limitations would be exceeded while firing them.

FACILITY COMPLIANCE STATUS

The Department finds that:

1. The source will meet applicable emission limits and other requirements.
2. The source will not cause nor exacerbate a violation of an ambient air quality standard or ambient air increment.

PRELIMINARY DETERMINATION

The Wisconsin Department of Natural Resources has reviewed the permit application and other materials submitted by Northern Engraving Corporation and hereby makes a preliminary determination that an operation permit may be issued with the following Draft Applicable Limits and Draft Permit Conditions.